



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,468	01/16/2002	Barrie Hart	68.0292	6105

7590 04/16/2004

Schlumberger Technology Corporation  
Schlumberger Reservoir Completions  
14910 Airline Road  
P.O. Box 1590  
Rosharon, TX 77583-1590

EXAMINER

PANTUCK, BRADFORD C

ART UNIT	PAPER NUMBER
----------	--------------

3731

DATE MAILED: 04/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/050,468

Applicant(s)

HART ET AL.

Examiner

Bradford C Pantuck

Art Unit

3731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02/20/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 2-4, 6-25, 27, 28, 30 and 35-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 26, 29, and 31-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 01-27-2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION*****Election/Restrictions***

1. Applicant's election without traverse of Claims 1, 5, and 26-34 in Paper No. 02-20-2004 is acknowledged. Specifically, Examiner notes that Applicant elected Species I, an "expandable device with thin and thin struts", and the subspecies directed to "Spring member couples thin and thick struts." Examiner notes that this embodiment is shown specifically in Figures 31-34, and Examiner has searched only the claims associated related to these shown embodiments having thin/thick struts and a spring member coupling said struts.
2. Claims 2-4, 6-25 and 35-38 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 02-20-2004. Further, Claims 27 (locking mechanism, non-elected species iii), 28 (pivotable hinge joint, non-elected subspecies i.), and 30 (plastically deformable thinned region 140—see Figures 24A-25B) are also withdrawn from further consideration, because they are *clearly directed to non-elected species*. For example, a deformable region (claim 30) is a distinct embodiment from a spring region (claim 33). Consequently, claims 1, 5, 26, 29, and 31-34 have been treated.

***Specification*****Content of Specification**

3. Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the

title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, *preferably from two to seven words* may not contain more than 500 characters. The title, "TECHNIQUE OF FORMING EXPANDABLE DEVICES FROM CELLS THAT MAY BE TRANSITIONED BETWEEN A CONTRACTED STATE AND AN EXPANDED STATE," is too long.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 5, 26, 29, and 31-34 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,488,702 to Besselink. Regarding Claims 1 and 31, Besselink discloses an expandable device (stent shown in Fig. 5A) with many expansion members [Column 2, lines 17-29], including many cells that expand from a closed to an opened state. Each cell (Figure 6 shows such a unit) has a thin strut (8) pivotably connected to a thick cell (9) at respective joints (12 and 12) [see Fig. 6 and Column 5, lines 48-63]. The verb "to pivot" means: "to cause to rotate, revolve, or turn." Certainly, as one can see from the progression from Figure 5A to Figure 5B or

from the progression from Figure 6 to Figure 8, strut 8 pivots relative to strut 9 about coupling junction 12.

5. Regarding claims 5 and 32, Besselink discloses a tubular stent that expands radially when each individual cell expands [Column 5, lines 31-48].
6. Regarding Claim 26, Besselink discloses a method of expanding his stent including all of the Applicant's limitations. In *Column 5, lines 44-48*, Besselink discloses applying an expanding force to the wall in a radially outward direction in order to transition the many bistable cells from a contracted state to an expanded state [see Fig. 5A to Fig. 5B].
7. Regarding Claims 29, 33, and 34, Besselink discloses coupling thin strut 8 to thick strut 9 by a spring member 12. Consistently, throughout his disclosure, Besselink speaks of each unit cell as a spring system. Specifically, in Column 6, lines 1-5 Besselink refers to each cell as a spring system. Because joint 12 is a part of each cell, it must play some part in the spring action that occurs when the cell transitions from a closed state to an open state.

Further, Besselink describes the action of the bistable cell as a "snapping" action: the cell snaps from the position shown in Figure 7 to the position shown in Figure 8. The reader knows that joint 12 plays a spring role in this snapping action because in Figure 7, it is slightly extended and then in Figure 8 in its compressed (relaxed) position, in accordance with the activity of any other spring. *Particularly, at the junction of joint 12 and thin strut 8, there will be some degree of springiness.*

*Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Publication No. US 2001/0044652 A1 to Moore

U.S. Patent No. 5,997,580 to Mastrorio et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradford C Pantuck whose telephone number is (703) 305-8621. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J Milano can be reached on (703) 308-2496. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BCP  
BCP

April 9, 2004



Michael Milano  
Supervisory Patent Examiner  
Art Unit 3731